

published in French, "because this language is, without the possibility of contradiction, that one the most universally known among all the living languages."

Most heartily do we echo the following words of the editors:—

"L'Italie a été jadis le berceau de la renaissance des arts et des sciences. D'autres nations nous ont depuis lors dépassés; mais l'unité de la patrie est venue rallumer le foyer du travail, et donner un nouvel essor aux études scientifiques, dont nous constatons chaque année les rapides progrès. Les travaux qui verront le jour dans les *Archives Italiennes de Biologie* seront, pour notre pays, nous l'espérons, un nouveau titre à l'estime de tous ceux qui prennent intérêt à l'avancement des sciences de la vie."

Among the chief articles in volume I. are the following:—*Physiology*: On a new element in the blood of mammals, and its importance in thrombosis and in coagulation; on the production of the red globules in extra uterine life; and on small blood discs in mammals, by G. Bizzozero; on the reproduction of the marrow in long bones; and on the regeneration of articular extremities in sub-capsular periosteal resections, by D. Bajardi; on the hæmatopoietic functions, and on the complete reproduction of the spleen, by G. Tizzoni; on hepatic glycogenesis, by Ph. Lussana; on the functions of the bladder, by A. Mosso and A. Pellacani; on the structure of the spinal cord, by J. B. Laura; on varieties in the cerebral circulations in man, by C. Giacomini; critical experimental study of the cortical motor centres, by A. Marcacci; on the caducousness of the ovarian parenchyma and its total rehabilitation, by J. Paladino; origin of the olfactory tract, &c., in mammals, by C. Golgi. *Pathology*: Contribution to the pathology of the muscular tissue, by E. Perroncito; contribution to the study of endocarditis, by V. Colomiatti; contribution to the subject of intestinal cysts, by H. Marchiafava; on the discovery of the specific ferment of malaria in the blood, by the Editors. *Zoology*: On the origin of the central nervous system in annelids, by N. Kleinenberg, of Messina; on the nervous system and sense organs of *Sphaeroma serratum*, by J. Bellonci; on a new genus (*Distaplia*) of Synascidians, by A. Della Valle; on the metamorphoses of some Insecticole Acari, by Ant. Berlese. *Botany*: On the action of ether and chloroform on the sensitive organs of plants, by C. Cugini; on the active principle of *Adonis vernalis*, by V. Cervello; contribution to the study of the genus *Cora*, Fr., by O. Mattirollo; researches on the anatomy of leaves, by I. Briosi.

Vol. ii. part 1, contains: On the early phenomena of development in *Salpa*, by F. Todaro; on the anatomy of the compound Ascidians; and on budding in the Didemnidæ and Botryllidæ, and on the enterocœtic type in the Ascidia, by A. Della Valle; polymorphism and parthenogenesis in some Acari (Gamasidæ), by A. Berlese; on an unobserved organ in some vegetable embryos, by S. Briosi; experimental study of the cortical motor centres, by A. Marcacci; experiments on the formation of uric acid, by J. Colasanti; on the action of oxygenated water (H²O²) on animal organisms, by J. Colasanti and S. Capranica; on the toxic action of human saliva, by L. Griffini.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

OXFORD.—In addition to the Scholarships in Natural Science offered by Balliol and Christ Church this term, of which details have been published in NATURE, a scholarship in Natural Science will be offered for competition next term by Queen's College. Papers will be set in Chemistry, Physics, and Biology. No candidate will be expected to offer more than two of these subjects. Candidates are requested to signify their intention of standing by letter to the Provost, not later than February 1, and to state the subjects they propose to offer.

The Natural Science Scholarship at Exeter College has not been awarded. Mr. H. O. Minty, of the Royal College of Science, Dublin, has been elected to an Exhibition. Mr. Minty was *proxime* at the late examination for the Trinity Natural Science Scholarship, but being over the statutable age, was not eligible for a scholarship at Exeter College.

CAMBRIDGE.—Prof. C. C. Babington, F.R.S., Professor of Botany in the University of Cambridge, has been elected to a Professorial Fellowship at St. John's College. Prof. W. J. Sollas, F.G.S., Professor of Geology at University College, Bristol, has also been elected Fellow of St. John's College.

THE number of students at Dorpat University is vastly increasing from year to year. While in 1867 the number was only 573, it reached 728 in 1872, 858 in 1877, 1105 in 1880, and now stands at 1367 students.

SCIENTIFIC SERIALS

Journal of the Royal Microscopical Society for August, 1882, contains: On some micro-organisms from rain-water, ice, and hail, by Dr. R. L. Maddox.—On the relation of aperture and power in the microscope, by Prof. Abbe.—Description of a simple plan of imbedding tissues for microtome cutting in semi-pulped unglazed printing paper, by B. W. M. Richardson.—Note on Rev. G. L. Mills' paper on diatoms in Peruvian guano, by F. Kitton.—The usual summary of current researches relating to zoology and botany (principally invertebrate and cryptogamia), microscopy, &c., including original communications from Fellows and others.—Proceedings of the Society.

THE same journal for October, 1882, contains: On plant crystals, by Dr. Aser Poli (plate 6), and the summary of current researches relating to zoology and botany (principally invertebrate and cryptogamia), microscopy, &c., including original communications from Fellows and others.

The Quarterly Journal of Microscopical Science, No. 87, for July, 1882, contains:—Note on the formation of fibrine, by Mrs. Ernest Hart (plate 21).—On the genesis of the egg in Triton, by T. Iwakawa (plates 22-24).—On the germination and embryogeny of *Gnetum gnemon*, by F. O. Bower (plate 25).—The organ of Jacobson in the dog, by Dr. E. Klein (plate 26).—On *Saprolegnia* in relation to the salmon disease, by Prof. Huxley.—Notes on certain methods of cutting and mounting microscopical sections, and on the central duct of the Nephridium of the leech.

No. 88, for October, 1882, contains: On the development of *Ostrea edulis*, by Dr. R. Horst (plate 27).—The morphology and life-history of a tropical Pyrenomycete, by H. Marshall Ward (plates 28 and 29).—The thread cells and epidermis of *Myxine*, by R. Blomfield (plate 30).—The eye of *Spondylus*, by Sydney J. Hickson.—Note on open communication between the cells in the pulvillus of *Mimosa pudica*, by W. Gardiner.—Notes on the development of Mollusca, by Prof. Haddon.—Note on Echinoderm morphology, by P. Herbert Carpenter (woodcuts).—On the vertebrae of the tail of Appendiculariae, by Prof. Lankester.—Notes on the structure of Seriatopora, Pocillopora, Corallium, and Tubipora, by Prof. Moseley (woodcut).—Note on pacinian corpuscles, by Dr. V. Harris.—Reviews of Strasburger's structure and growth of the cell wall, and of Bergh's researches on the cilio-flagellata.

Proceedings of the Royal Society of Tasmania for 1880, contains:—Algae of the New Hebrides, by Dr. Sonder, contains new species of Sarcodia, Caulerpa, and Chætomorpha.—On some Australian slugs, by Prof. R. Tate.—On the Unios of the Launceston Tertiary basin, by R. Etheridge, jun. (with a plate).—On a fossil helix, by R. M. Johnston (with a plate).—The lichens of Queensland, by F. M. Bailey.—On some fossil leaves and fruits, by Dr. C. E. Bernard.—On some introduced plants, by Rev. G. E. Tenison Woods.—On some new species of fish, by R. M. Johnston.—On oyster culture, by Capt. Stanley, R.N.

Bulletin de la Soc. Imp. des Naturalistes de Moscou, 1881, No. 4, contains: On new species of European Mints, by M. Gandoger.—On the Amphibia and Reptiles of Greece, by Dr. J. v. Bedriaga.—On new species of Hemiptera from the Aral and Caspian districts, by V. Jakovlev (in Russian, but the diagnoses of the new genera and species are given in German).—Catalogue of the Lepidoptera of the Moscow district, by L. Albrecht (Supplements Dr. E. Assmus's catalogue of 1858, and raising the number of species from 675 to 1172).—On new Lepidoptera from the Amur Land, by H. Christoph.—Meteorological observations (Moscow) for 1881, by J. Weinberg.

SOCIETIES AND ACADEMIES

LONDON

Chemical Society, November 2.—F. A. Abel, F.R.S., vice-president, in the chair.—It was announced that a ballot for the election of Fellows would take place at the next meeting (November 16).—The following papers were read:—On dihy-

dioxybenzoic acids and iodosalicylic acids, by Dr. A. K. Miller. The author has succeeded in preparing the sixth dihydroxybenzoic acid; five being already known. It was obtained by heating salicylic acid and iodine in alcoholic solution, two iodosalicylic acids were formed, which yielded two distinct dihydroxybenzoic acids when heated with potash.—On crystalline molecular compounds of naphthalene and benzene with antimony trichloride, by Watson Smith and G. W. Davis. By melting three parts by weight of antimony trichloride with two of naphthalene, minute crystals were obtained, $3\text{SbCl}_3 \cdot 2\text{C}_{10}\text{H}_8$; similarly with benzene, a body, $3\text{SbCl}_3 \cdot 2\text{C}_6\text{H}_6$, was prepared.—Additional evidence, by an analysis of the quinoline molecule, that this base belongs to the aromatic series of organic substances, by Watson Smith and G. W. Davis. The authors have studied the effect of exhaustive perchlorination (by heating with antimony pentachloride) on quinolin; perchlorethane, perchlorobenzene, and nitrogen were obtained.—On orcin and some of the other dioxytoluols, by R. H. C. Neville and Dr. A. Winther. The authors have prepared the dioxytoluol 1. 3. 5, starting from the dinitrotoluol 1. 3. 5, and have found it to be identical in all its reactions and physical properties with orcin. They have also prepared the dioxytoluols 1. 2. 4 and 1. 2. 5, and have investigated the preparation of the body 1. 3. 4.—On the varying quantities of malt albumenoids extracted by waters of different types, by E. R. Moritz and A. Hartley.—On the derivatives of ethylene-chlor-bromide, by J. W. James. The author gives details as to the preparation of this body, and has studied the action of sodium sulphite upon ethylene chlorobromide, ethylene dibromide, and ethylene chlorothiocyanate; also the action of ammonia upon an ethereal solution of chlorethylsulphonic chloride.

PARIS

Academy of Sciences, October 30.—M. Blanchard in the chair.—The following papers were read:—Remarks on the theory of shocks, by M. Resal.—Results of experiments made at the Exhibition of Electricity on machines and regulators with continuous current, by MM. Allard, Joubert, Le Blanc, Potier, and Tresca. Thirteen different combinations are dealt with, and data regarding mechanical work, electric resistance, intensity, luminous power, economical efficiency, &c., tabulated. Another paper, to appear soon, will treat of other systems. In nearly all the experiments the total motor work is very well represented by the corresponding electric work.—Rational conception of the nature and propagation of electricity (continued), by M. Ledieu. Electricity is, no more than heat or light, to be regarded as a special agent under particular mechanical laws. As to the phenomenal cause, it is simply the potential energy of the ether associated with the ponderable matter, especially in the form of atmospheres round the molecules. It has for counterpart the portion of potential energy of the ponderable matter, which constitutes chiefly *latent heat*.—On the efficacy of lightning conductors, by M. Hirn. A very faulty conductor may *sometimes* protect a house. One such near Colmar, on a house 15m. high, consisted (in descending order) of a conical brass point, an iron rod about 8m. long, on which this was screwed, and a wire, hardly 0.007m. diameter, in pieces with terminal rings, passing down to a piece of iron 0.5m. long in a hole in the moist ground. In a violent storm (the thunder of which brought down plaster from ceilings), the rod was struck, and the brass cone fused, but no part of the current left the conductor. During over forty years' observations, M. Hirn has never seen lightning strike any of the forty or fifty lightning rods on the works of Logelbach. Yet, during a thunderstorm, these rods work actively; as he has proved by means of derived circuits from the uninterrupted conductors, yielding currents with magnetising power. He has even drawn currents from a conductor separated by a thin leaf of caoutchouc; the thin copper wire was never fused.—Application of the law of complementary colours to temporary decoloration of diamonds tinted yellow, by MM. Chatrian and Jacobs. The yellow diamond is merely put in a solution of the complementary colour (violet), and it comes out white; but mere washing brings back the yellow.—Chemical studies on the sugar beet called the white beet of Silesia, by M. Leplay.—On certain quadratic forms, and on some discontinuous groups, by M. Picard.—On trigonometric series, by M. Poincaré.—Reply to M. Faye's objections to Dr. Siemens' theory of the sun, by Dr. Siemens.—On an extension of the principles of areas and of movement of the centre of gravity, by M. Lévy.—On the longitudinal vibrations of elastic rods, and the motion of a rod carrying at its end an additional mass, by MM. Sébert and

Hugoniot.—New expressions of the work and economic efficiency of electric motors, by M. Deprez.—On a modification required in enunciation of the law of isomorphism, by M. Klein. In the second part of the law, stating that isomorphous bodies have a similar chemical composition, it is necessary to say, instead, that they have either a similar chemical composition, or present a centesimal composition slightly different, while containing a group of elements that are common or of identical chemical functions, and which form much the largest part of them by weight.—Researches on the thorite of Arendal, by M. Nilson.—Rapid process of determination of salicylic acid in beverages, by M. Rémont.—Distribution of ammonia in the air and aqueous meteors at great altitudes, by MM. Muntz and Aubin. On the Pic du Midi (2877 m.), the quantity of ammonia in the air was much the same as on low ground (or 1.35 mgr. per 100 cub. m.); that in rain water considerably less; also that in snow and in mist.—New chemical and physiological researches on some organic liquids (water of sea-urchins, water of hydatid cysts and cysticerci, amniotic liquid), by MM. Moursion and Schlagdenhaufen.—On the evolution of Peridinians and the peculiarities of organisation connecting them with Noctilucae, by M. Pouchet.—Hypsometric map of Turkey in Asia, published at Tiflis, under direction of General Stebnitzky. Previous maps are shown to need correction in orography.—Action of oil on sea-waves, by M. Virlet d'Aoust. An experience of his in Greece in 1830 shows that the method was practised by seamen there. He also notes the calming effect of petroleum rising in the bed of a Mexican river, and carried into the sea.—On the cultivation of opium in Zambesia, by M. Guyot. This was begun in 1879 at Chaima, near Niopca, about 6 km. from the Zambesi. In 1881 it engaged 300 workers, 250 of whom were blacks and 50 natives of India. In India the opium sells for 50 to 60 francs the kilogramme.

GÜTTINGEN

Royal Society of Sciences, June 10.—On the occurrence of cleistogamous flowers in the family of the Pontederaceae, H. Grafen zu Solms-Laubach.—On Arabian navigation, by S. Gildemeister.—On gradually developing contact-electricity with co-operation of air, by W. Holtz.—Optical studies on garnet, by C. Klein.

August 1.—On the measurement of the winding surface of a wire-coil by the galvanic method, and on the absolute resistance of the mercury-unit, by F. Kohlrausch.—On triazo compounds, by H. Hubner.—On the method proposed by M. Guébard for representation of equipotential lines, by H. Meyer.—On the neurology of the Petromyzonts, by F. Ahlborn.

CONTENTS

PAGE

A SEARCH FOR "ATLANTIS" WITH THE MICROSCOPE. By Dr. ARCH. GEIKIE, F.R.S.	25
THE LIFE OF CLERK MAXWELL	26
OUR BOOK SHELF:—	
Burmeister's "Description Physique de la République Argentine d'après des Observations Personnelles et Étrangères"	28
Scudder's "Nomenclator Zoologicus"	28
LETTERS TO THE EDITOR:—	
"Weather Forecasts."—Rev. W. CLEMENT LEY	29
The Comet.—C. J. B. WILLIAMS; W. J. MILLER; WALTER HIGGINSON and B. MANNING	29
Two Kinds of Stamens with Different Functions in the same Flower.—Dr. HERMANN MÜLLER (With Illustrations)	30
A Curious Halo.—FATHER MARC DECHÈVRENS	30
Habits of Scypho-Medusæ.—Surgeon-Major H. B. GUPPY	31
Prof. Owen on Primitive Man.—GRANT ALLEN	31
Magnetic Arrangement of Clouds.—C. H. ROMANES	31
The Umblebe Tree of Zululand.—H. M. C.	32
The Weather.—J. M. FOUNTAIN	32
ON THE GRADUATION OF GALVANOMETERS FOR THE MEASUREMENT OF CURRENTS AND POTENTIALS IN ABSOLUTE MEASURE. By ANDREW GRAY (With Diagrams)	32
THE ITALIAN EXPLORATION OF THE MEDITERRANEAN. By Dr. J. GWYN JEFFREYS, F.R.S.	35
WIRE GUNS, II. By JAMES A. LONGRIDGE, C.E. (With Diagrams)	35
BEN NEVIS OBSERVATORY. By CLEMENT R. WRAGGE	39
THE OYSTER INDUSTRY OF THE UNITED STATES	39
NOTES	40
OUR ASTRONOMICAL COLUMN:—	
Comet 1882 b	43
The November Meteors	43
GEOGRAPHICAL NOTES	43
THE AIMS AND METHOD OF GEOLOGICAL INQUIRY. By Prof. JAMES GEIKIE, LL.D., F.R.S. L. and E.	44
THE SENSES OF BEES	46
INVERTEBRATE CASTS VERSUS ALGÆ IN PALÆOZOIC STRATA	46
BIOLOGY IN ITALY	46
UNIVERSITY AND EDUCATIONAL INTELLIGENCE	47
SCIENTIFIC SERIALS	47
SOCIETIES AND ACADEMIES	47